REMARKS

Basis for the additions to claim 1 may be found in original claims 3, 6, and 12. It is respectfully requested that these amendments be entered and this application passed to issue, as the amendment to claim 1 does not raise any new issues as all limitations have been previously searched and considered. Further, the total number of claims has been reduced. In the alternative, it is respectfully requested that the amendment be entered to narrow the issues for appeal.

In paragraph 2 of the Office action claims 1,3-6,10, and 12-21 stand rejected under 35 USC 103 as unpatentable over Darsillo (264) for the reasons of record and for reasons set forth in Section 4 of the Office Action.

Darsillo et al. discloses a recording medium with two different particles, however. Darsillo et al. does not demonstrate the advantages of porosity, gloss and image fade resistance as achieved by the use of the particle sizes, ratio of particles and selection of shelling material as set forth in the claims. It is respectfully urged that Darsillo et al. does not indicate a preference for cationically shelled particles but merely states that "[i]t is sometimes preferred that that cationic particles be included in glossy coating." Furthermore, none of the examples disclosed in Darsillo et al. include surface treated, or cationically shelled particles of any kind. Examples 14-16 of the reference include pyrogenic alumina, which is a cationic particle, but it is not shelled. As discussed above there is an important distinction between a cationic particle and a shelled particle. A cationic particle is simply a particle with a positive charge. However, a shelled particle is a particle in which the surface of the particle has been chemically modified with a composition of matter that is distinctly different from that of the core, or interior of the particle. Therefore, it is respectfully urged that the particles as disclosed in Darsillo et al. have not been chemically modified as in the present invention.

Applicants would further like to clarify the term image fade resistance as disclosed in the instant invention. As the Examiner has correctly pointed out it is well known that cationic materials will fix anionic dyes, making them less subject to bleeding and "fading." The proper term for this property is bleeding or water-fastness. Image fade resistance in our case is distinct in that it

refers to light-fastness and oxidative resistance of the image in dry conditions. This is defined in the background of the instant invention on page 2 lines 8-10, and further on page 4 lines 23-28. The materials defined in the instant invention are selected from a unique set of materials that have been shown to provide light-fastness and oxidation resistance also known as image fade resistance.

Applicants respectfully direct the Examiner to the data of Table 1. The examples C1-C7 are essentially directly comparable to those of Darsillo et al. and essentially reproduce the reference result (a trade off between porosity and gloss with no fade resistance). The instant invention demonstrates surprising results in light of Darsillo et al. When particles that have a surface-modification providing image fade resistance are used to construct an image recording medium, highly porous and highly glossy coatings are obtained at relatively high fractions of large particles over a limited range. This is demonstrated in Table 1 of the specification at page 18.

Table 1

Example	Percent Small Particles	Percent Large Particles	Shell	Percent Porosity	60° Gloss (%)	Percent Magenta Fade	Percent Cyan Fade
C-1	100	0	None	42	40	40	11
C-2	89	11	None	45	31	48	40
C-3	77	23	None	48	29	26	50
C-4	66	34	None	52	12	28	50
C-5	55	45	None	55	6	19	47
C-6	44	56	None	60	5	17	60
C-7	32	68	None	65	9	12	54
C-8	100	0	Yes	33	4	3	0
C-9	89	11	Yes	37	7	0	0
I-1	77	23	Yes	42	16	0	6
I-2	66	34	Yes	39	29	1	18
I-3	55	45	Yes	48	29	2	15
I-4	44	56	Yes	52	33	4	25
I-5	32	68	Yes	58	31	4	11

For the comparison examples, the general trends taught in the art are observed, porosity increases and gloss decreases as the percentage of large particles increases, see C-1 through C-7. However, for the inventive examples wherein the particles are shelled with a material providing image fade resistance, surprisingly, gloss increases upon introduction of larger particles, and concurrent,

high-porosity, high-gloss and low-fade are achieved only over the inventive region, having a surprisingly high-fraction of large particles.

In Darsillo et al. glossy coatings are obtained only after calendering the coating, see Table 3 column 17. Calendering is a method applying pressure to the coating surface to make it smoother and hence to improve gloss. Calendering can be both expensive and time consuming. Compare the results for the comparison example 3A with that of example 3 in Darsillo et al., the gloss is poor for both, unless calendering is used, and exhibits the usual trend of improved gloss for introduction of smaller particles.

Therefore, it is respectfully urged that the present invention as amended is non-obvious since Darsillo et al. does not teach concurrently achieving high-porosity, high-gloss and image fade resistance by use of shelled particles as disclosed in the present invention as amended. Furthermore, image fade resistance would not have been an inherent property of Darsillo et al. because the reference did not teach the use of the image fade resistant materials as claimed in the instant invention. Therefore, it is respectfully requested that this rejection be reconsidered and withdrawn.

In paragraph 4 of the Office Action the Examiner has rejected claims 1-25 under 35 U.S.C. § 103 as being unpatentable over Darsillo et al. in view of Bi et al. (2004/0197498) and further in view of Alexander et al. (3,007,878) for the reasons set forth in section 4 of the Office Action. The Examiner indicates that Bi el al. discloses treating silica particles to make them cationic for inclusion in an ink jet recording sheet. The Examiner further indicates that Alexander et al. discloses the surface of silica that is complexed with a metal oxyhydroxy material. The Examiner states that it would have been obvious to one of ordinary skill in the art to treat the silica of Darsillo et al. as set forth in Bi el al. and Alexander et al. to render the silica cationic. This rejection is respectfully traversed.

As discussed above Darsillo et al. discloses a recording medium with two different particles, however, fails to teach particles, such as specified in the claims, shelled with hydrolyzable organosilanes, aluminasilicate polymers or metal oxyhydroxy complexes, and further fails to teach porosity and gloss as claimed in the present invention. Bi et al discloses a two-layer coating in which each layer is composed of cationic silica, but fails to teach shelled particles as disclosed in the present invention. Alexander et al. discloses coating the surface

of silica with an oxygen compound of a polyvalent metal added as basic salt. However, none of these references alone or in combination teach an image-receiving element containing two different sized particles shelled with hydrolyzable organosilanes, aluminasilicate polymers or metal oxyhydroxy complexes, and wherein the element has both porosity and gloss as claimed in the present invention. Therefore, it is respectfully requested that this rejection be reconsidered and withdrawn.

Response to Examiners comments in Section 4 of the Office Action.

On page 2 of the Office Action, the Examiner states that the applicants arguments concerning gloss are not persuasive as the measurement of gloss at 75 degrees instead of the applicants' 60 degrees is a matter of measurement technique and that it would be obvious to one of ordinary skill to optimize the property. It is respectfully urged that there is a significant difference between gloss measurements at 60 degrees and 75 degrees. Accompanying this response are two publications discussing gloss measurement. These publications are "The Measurement of Gloss" by A. H. Pfund (October 1929), and "Gloss as an Aspect of the Measurement of Appearance" by Wei Ji et al., J. Opt. Soc. Am. January 2006 Vol. 23, No. 1, pp. 22-33). The Examiner's attention is directed to page 24 of Pfund for a discussion of how the measurement is done and to page 23 of Ji et al for a discussion regarding Figure 1 where it is shown how 60 degree gloss and 75 degree gloss measurements differ for a semi-glossy article. It is noted that the applicant has raised the gloss limit of claim 1 to be even further from the range of Darsillo et el. It is urged that while gloss was known in the art, it was not obvious from the art to create the claimed article by selection of materials and characteristics as instantly disclosed and claimed.

At the top of page 3 of the Office Action, the Examiner states that it would be obvious to control the porosity as claimed. However the applicants' porosity is not shown or suggested by the reference. The Darsillo reference, at col. 5 and 6 as pointed out by the Examiner, discloses porosity of the particles and not the layer of the image-receiving member. In any case, the applicants' invention is directed to the formation of a sheet with a good balance of stability, gloss, and porosity by selection of particular particle size, size ratio, and shell

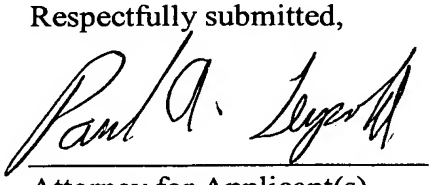
material. The knowledge that such properties existed does not make obvious the invention article as there is no teaching to suggest or disclose an article as now claimed.

At page 4, the Examiner states that the Examples are not convincing as the size change after shelling would affect the results such that the difference in size before and after shelling means that the comparisons are not convincing. However it is urged that the shell is so thin that the particle size after shelling is substantially the same as before shelling. The Examiner's attention is directed to pages 13 and 14 of the instant specification where the shell is shown to be less than 10% of the diameter. It is respectfully urged that this small size difference is not enough to make the Examples not convincing.

In the paragraph at the bottom of page 4 of the Office Action, the Examiner states that it is unclear why the applicants consider the levels of gloss of the reference to be poor. The Examiner points out that the reference has gloss of 17 while the Applicant has gloss as low as 15. As discussed above, the 75 degree gloss of 17 would be less than the 60 degree gloss of 15 if measured at 60 degrees. Nevertheless, the Applicant has now limited the claims to 60 degree gloss of greater than 25, which is not anywhere close to the gloss in the reference. Darsillo must calendar to obtain that high a gloss, whereas the instant claimed invention allows formation of an image-receiving layer with higher gloss than the prior art material.

Therefore, it is respectfully requested that the rejections under 35 USC 103 be reconsidered and withdrawn and that an early Notice of Allowance be issued in this application. In the alternative, it is respectfully requested that this amendment be entered as placing the application in better condition for appeal.

Respectfully submitted,



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